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ABSTRACT

This paper discusses the use of quantitative methodologies to evaluate extended-stay outdoor education school programs (ESOESPs) in Australia. A recurring theme in the literature of outdoor education is the paucity of empirical data to support its continuation and development. Proponents argue that the outdoor education experience leads somehow to a long-lasting personal transformation. However, anecdotal evidence and "warm fuzzies" are not grounded in rigorous systematic research. ESOESPs are Australian off-campus residential programs, conducted in outdoor settings for at least 20 weeks, that are incorporated into the school experience. While gaining in popularity, ESOESPs are capital intensive. To survive in an age of conservative educational reform, programs such as these must provide systematic empirical evaluations of both immediate and long-term impact. Two instruments, the Real Me Questionnaire (RMQ) and the School Life Questionnaire (SLQ), were developed to evaluate ESOESPs. Major program objectives related to student self-concept, social responsibility, intellectual development, and health and physical development were elaborated into behaviorally related statements that require a graded response from subjects. RMQ contains 65 items and measures attitudes, perceptions, and behaviors. SLQ contains 31 items and examines appropriateness of curriculum, quality of teaching, school spirit, and personal relationships. Both instruments have demonstrated statistical reliability and construct validity. Included are program objectives and questionnaire subscales, and constructs. Contains 18 references. (SV)

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Effective Research Into Experiential Education A Critical Resource In Its Own Right.

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Proponents of experiential education have long argued that research is needed to inform practice and enhance the credibility of the profession. When an evaluation model using both quantitative and qualitative paradigms was developed for an important Australian study, the quantitative aspect was criticized as being inappropriate to use as an evaluative tool in the area of experiential education. This paper explores the rationale for the inclusion of quantitative methodologies and examines the arguments opposing such an approach. Also, the development of two instruments which can be adapted for use in school based experiential education programs will be reviewed.

Day: **Friday**
Time: **8:30**

Expanded Description

Although experiential education takes place within a myriad of pedagogical contexts, this paper deals specifically with the realm of outdoor education in an extended stay school setting. A recurring theme within the outdoor education literature relates to the paucity of empirical data to support its continuation and development (Richards, 1994, Sakofs, 1991). Proponents articulate that the outdoor education experience leads somehow to a personal transformation which lasts far beyond the conclusion of the adventure (Stremba, 1989). For the most part, anecdotal evidence and "warm fuzzies" are not grounded in rigorous systematic research. As a natural corollary, there appears to be a lack of empirical data to support the rhetoric surrounding these, and other similar claims. This is particularly true of outdoor education programs which take place in extended stay school settings. This paper discusses the role of quantitative techniques within a longitudinal quasi-experimental design. The development of analytical tools designed to assess the effects of extended stay outdoor education school programs (ESOESP's) is also addressed. In essence, this research attempts to produce a "critical resource" for future evaluation within this field.

Outdoor Education - A Brief Overview

Arguably outdoor education is one of the most successful post-World War II 'progressive' education movements. The outdoor education paradigm is in essence, based on the ideology of Kurt Hahn. His educational thought advocated that the traditional school curriculum was sterile and irrelevant and as such, was inadequate for the total development of the child (Gray and Perusco, 1993). Hahn maintained that adolescents need to test and prove themselves in the outdoor setting in order to develop and enhance their self concept (Rohrs, cited in Brereton, 1970).

The development and promotion of the whole person as a social, as well as an individual being, in a balanced and integrated way is the fundamental aim of outdoor education. According to Gray et al (1992) outdoor education:

...aims to strengthen the values of social responsibility, often considered to be neglected in conventional schooling, through team activities and involvement in community welfare and development projects. At the same time it aims to promote a sense of self esteem and personal capability by providing opportunities to explore individual interests; to develop a range of practical skills beyond those of the normal academic curriculum; and to establish a climate of cooperative enterprise rather than individual competition. None of this is to deny the importance of academic, sporting and cultural interests associated with conventional schooling, but rather to balance them with the development of other personal and social values, generally regarded as outside the formal curriculum, in a more explicit and deliberate way, (pg 2).

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For the most part, education in its current state, is ineffective and unproductive. These aspects are echoed by Richards (1994) when espouses that "public education in the western world is in a shambles" (pg 6). Some valid arguments are also raised by Cooper (1994) when he states that: is it (education) concerned with empowering tomorrow's citizens or is it more about shaping people to the existing social, economic and political structures? These very structures are increasingly failing to our young people and will be woefully inadequate in providing an acceptable quality of life in the 21st century, (pg 9).

The futility of our educational system is also articulated by Gray and Perusco (1993) when they conclude that:

Traditional schooling remains entrenched in a system which foolishly prepares its graduates for a final exam rather than a total life experience. Surely, if education continues along this same pathway it will contribute to the demise of society rather than towards its enrichment, (pg 18).

In an attempt to make the school curriculum more relevant, attractive and meaningful, a group of educators throughout the world have adopted the fundamental aspects of Hahn's Outward Bound philosophy. As such, Ryan and Gray (1993) purport that:

What has been preserved as a common theme is that education should impel people through experiences which enhance; self awareness and responsibility; an ability to value and work with others; an environmental appreciation; a capacity to embrace challenge, and a tenacious spirit, (pg 7).

It is on this tenet that the inherent value outdoor education in the school curriculum, is based. The value of our current education system and its subsequent role in alleviating the level of social disintegration and environmental degradation in the world, is questionable. Primarily, education should assist the betterment of society. The rationale as to why contemporary society is fraught with social upheaval and fragmented lifestyles are many and varied. Cooper (1994) raises some interesting issues when he maintains that:

There is a lack of purpose in many people's lives. We have become removed from the rhythms of nature, from the seasons, from the day and night, and from the land and sea, from other life. We surround ourselves with surrogates, second-hand experiences vicarious pleasures. These are poor compensations for feeling part of the planet, for having a spiritual belonging, a kinship with the earth, (pg 9).

Herein lies the nexus of the outdoor education experience - it provides an opportunity for participants' to become reconnected with their spiritual core, enabling them to evoke a sense of fulfillment, purpose and direction in their lives. Within this context, Hunt, cited in Miles and Priest (1990), maintains that the erosion of civilization could be arrested if an adventure philosophy was adopted within society.

The Case for Quantitative Investigation

ESOESP's are off-campus residential programs conducted in outdoor settings which are incorporated into the school experience. At a minimum, ESOESP's last for twenty weeks duration and incorporate many of Hahn's Outward Bound ideologies embraced within the presentation of the traditional school curriculum. Given the fact that in Australia, ESOESP's currently exist and are gaining popularity, they are nonetheless, capital intensive and have no guarantee of permanency. Historically, ESOESP's have been justified in terms of perceived benefits and value judgments rather than evaluation embedded in sound empirical data.

Whilst trying to support ESOESP's in the Australian context, McRae (1989) and more recently Patterson (1991) failed to unearth studies of this nature. Both researchers concluded that searches of international data bases mirrored their initial findings. In an age of conservative educational reform as reflected in calls for 'back-to-basics', Gray et al (1993b) postulate that "if the outdoor education movement is to maintain its current momentum it will need to provide more substantiative evidence than what currently exists" (pg 57).

The research that exists, is for the most part, qualitative in nature. The superiority of qualitative over quantitative data, or vice versa, is not necessarily the purpose of this paper. Indeed, it is accepted that

both approaches have a place in evaluation models (Henderson, 1993). But Gray et al (1992) suggest that:

....the validity and reliability of qualitative research is not being disputed or questioned. The nature of data collection for this type of research is both time consuming and labor intensive thus generally restricting sample size and diluting the external validity of qualitative studies, (pg 3).

Large samples and whole populations can be accessed through quantitative methodologies. Subsequently, this methodology can address the external validity issue. It is accepted however that the internal validity and reliability of measuring multi-dimensional concepts such as social responsibility or personal relationships through quantitative instrumentation raises other issues.

As stated earlier, the debate concerning the lack of, and need for, effective evaluation of all types in outdoor education programs can be well documented. Within the last decade or so, researchers such as Hedin (1980), Ewert (1983), Kelk (1990) and Sakofs (1991), Richards (1994) and Davis-Berman & Berman (1994) have articulated their concerns. Within the ESOESP's context, Gray et al (1993b) indicate that there is a dearth of systematic evaluations of an empirical nature and none at all to determine the long term impact, either real or self perceived.

The Development of Quantitative Tools

Two instruments, the Real Me Questionnaire (RMQ) and the School Life Questionnaire (SLQ) were developed to evaluate the effects of ESOESP's. For those requiring further information, a thorough overview of the research tools can be found in Gray et al (1993a). Briefly however, the genesis of the quantitative instrumentation was in the identification of the salient components of ESOESP's. Preliminary information was gleaned from a review of the literature in tandem with extensive discussions with professionals working in this area. A number of objectives each relating to different aspects of personal and social development were identified (see Figure 1).

These major objectives were then elaborated into a series of more specific behaviorally related statements which required a graded response from the subjects. The authors used these statements to develop the survey instruments

Objectives of Extended Stay Outdoor Education School Programs (ESOESP's)

1. ***Objectives Relating to the Affective Domain***

   (a) **Self Concept**
   - to develop self confidence in students by providing them with opportunities to recognize and build on their personal strengths, to minimize their weaknesses, to engage in positive interaction with others, and through these experiences to become more independent and self reliant;
   - to provide students with a range of both academic and non-academic activities designed to enhance their sense of personal accomplishment;
   - to assist students gain acceptance from their peers and teachers as worthwhile and significant individuals.

   (b) **Social Responsibility**
   - to help students develop socially responsible attitudes and behavior both in their relationships with other people and in their activities associated with the non-human environment;
   - to improve self awareness and understanding of others by exploring personal capabilities and interrelationships in diverse and challenging situations.

2. ***Objectives Relating to Intellectual Development***

- to encourage a general interest in learning based essentially on intrinsic or intellectual motivation (i.e. curiosity driven) rather than on external persuasion or pragmatic vocational factors;
- to develop a reflective approach to learning through analysis and correlation of ideas and experiences rather than relying simply on rote recall;
- to improve self reliance in learning through efficient organization of study time and selection of appropriate learning strategies;
- to improve knowledge and understanding in both core and elective subject areas of the school curriculum.

3. ***Objectives Relating to Health and Physical Development***

- to enhance and appreciate physical health and fitness through encouragement of regular exercise and appropriate dietary habits;
- to promote a sense of enjoyment and satisfaction in outdoor activities through participation in games, adventures and sporting events which emphasize individual accomplishment rather than focusing on open competition;
- to develop coordination and teamwork skills through participation in both individual and group activities designed to encourage positive involvement, perseverance and cooperation within a relaxed and supportive environment.

As cited in Gray et al (1993a, pg 7) and in both cases, the current RMQ and SLQ instruments are the result of restructuring and reshaping previous pilot attempts. The RMQ and and SLQ draw from a variety of sources, including Rotters Internal - External Locus of Control, Marsh's SDQ II Self-Concept instrument and McRae's Environmental Concern Inventory. As outlined earlier, a detailed explanation of the developmental process can be found in Gray et al (1993). The application of item analysis procedures was guided by factor analytic techniques to support the development of instruments containing constructed subscales. At this juncture, the instruments had been shown to be statistically reliable, and in terms of the constructs investigated, valid.

The RMQ contains 65 items and examines attitudes, perceptions and behaviors. Using a five point behavioral intention scale (1=never to 5=always) the RMQ contains six subscales. These include: autonomy; social responsibility; personal relationships; health and physical aptitude; academic and cultural achievement; and environmental sensitivity. These subscales, together with their internal consistency values (Cronbach Alpha) are described in Figure 2.

The SLQ contains 31 items and utilizes the same five point scale to analyze behavioral patterns or intent. The 31 items form four subscales which include:
appropriateness of curriculum; quality of teaching; school spirit; and personal relationships. These subscales, together with their internal consistency values (Cronbach Alpha) are described in Figure 3.

This process has led to the present position of the two questionnaires. Recent application has provided data which provides the basis for Part II of this paper.

Discussion

Given the evaluation model depicted in Figure 4, when used in conjunction with other methods such as logs, personal interviews, parent-perception questionnaires, teacher interview and observation, the RMQ and SLQ have the potential to improve both the depth and breadth of understanding in this field. Like all pioneering work, the present instrumentation will no doubt undergo further change before it reaches a more refined or sophisticated level. At the moment, however, it provides a workable basis for investigating the short and long term impact of ESOESP's on participants.

Figure 2: SUBSCALES CONTAINED IN THE REAL ME QUESTIONNAIRE (RMQ)

Subscale	Constructs	Items
Social Responsibility 12 items (Alpha= .76)	• Helping other people • Understanding and tolerance of different views • Co-operation and fairness	• I try to make other peoples' lives happier • I am tolerant of other people and their opinions • I try to set a good example in my behavior for others • I enjoy being involved in community activities • When people have problems I try to help them • I think about how the things I do are likely to affect other people • I am fair in my dealings with others • People can count on me to do the right thing • I tend to act first and think of the consequences later • I like to live for the present and let future generations look after themselves • When I make a promise, I keep it • I tend to put my own needs before those of other people
Personal Relationships 12 items (Alpha= .83)	• Friendship, peer acceptance • Interactions with others • Mutual respect	• I tend to be left out of things • I find it easy to make friends • I am one of the last to be chosen for group activities • My work is recognized in the school community • Other people seem to think highly of me • Other people seem to accept me as I am • I enjoy the company of others • Other students are friendly towards me • I am unpopular with other students • I find myself wishing I were different • I have arguments with others students • I listen patiently to people who disagree with me
Academic & Cultural Achievement 11 items (Alpha= .74)	• Cultural interests • self-learning abilities • self-learning interests	• I try hard to do well in my studies • I make a real effort to learn more about the world • I enjoy learning about other cultures • I enjoy studying • I try to learn from my experience of life • I get bored with school subjects • I like exploring new ideas • I spend time following up things mentioned in class • I seem to get good results at school • I tend to read novels and other books for personal interest • In world events I try to understand all sides of the story
Health & Physical Aptitude 10 items (Alpha= .81)	• General health & fitness • Health promotion habits • Athletic ability	• I make a real effort to lead a healthy lifestyle • I try to improve my level of health & fitness • I find it easy to pick up new games skills • If I could avoid doing exercise I would • I avoid taking risks with my health • I find hiking and bushwalking easy to do • I enjoy outdoor activities • I am happy to take on any physical challenge • I have difficulty coping with outdoor activities • If there is a chance to avoid outdoor activities I take it
Autonomy 10 items (Alpha= .71)	• Self-reliance • Independence • Ability to work on your own • Take the lead in difficult situations	• I am quite happy to work on my own • I like to solve my own problems • I am confident in my abilities to cope with life • When difficult situations arise I prefer others to take the lead • I like to make my own decisions • I tend to follow my own interests • I am capable of organizing myself • I try to keep control of myself in difficult situations • When there is trouble I try to deal with it rather than escape • I am happy to take responsibility for my own actions
Environmental Sensitivity 10 items (Alpha= .84)	• Care for the environment • Understanding of environmental issues • General habits	• I am concerned about the way we treat the environment • I do my best to avoid unnecessary waste • I go out of my way to clean up the school grounds • Before I act I consider how it will affect the environment • I get bored with talk about the environment • When I buy things I look for products with less wrapping • When I go out in the bush, I take special care not to harm any plants or animals • When I hear about environmental problems I try to find out the full story • I take the trouble to recycle bottles and cans wherever possible • When I leave a room I remember to turn off the lights

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Figure 3: SUBSCALES CONTAINED IN THE SCHOOL LIFE QUESTIONNAIRE (SLQ)

Subscale	Constructs	Items
School Spirit 12 items (Alpha= .79)	• Atmosphere of the school • Rules & Regulations • School Pride	This school is a place where: • I feel proud to be a student • I get a great deal of satisfaction from my experiences • I feel uncomfortable and restless • Teachers and students work well together • The teachers are willing to help when I need it • Students try to help each other in difficult situations • I get to know the teachers as real people • Teachers make an effort to understand me • Students are encouraged to be responsible for what they do • Everyone does their fair share of work for the school community • Students work together as a team • The rules and regulations are applied in a reasonable way
Personal Relationships 6 items (Alpha= .71)	• Friendship, peer acceptance • Interactions with others • Mutual respect • Unit/dormitory life	This school is a place where: • I like to mix with other students • I get a chance to take the lead in group activities • Unit/dormitory life gets me down • Students try to help each other in difficult situations • I feel free to say what I really think • Students work together as a team
Appropriateness of Curriculum 10 items (Alpha= .40)	• Relevance to life & work • Level of satisfaction and interest • Balance between subject areas • Academic rigor	This school is a place where: • The things we learn are relevant to life in general • I get a great deal of satisfaction from my experience • Students are able to develop their skills in a range of subject areas • I get a chance to do work that really interests me • We have an opportunity to study a wide range of subject areas • Students have a chance to explore their own interests in creative arts • Mathematics has a low priority in the total school curriculum • Students learn how to cope with life • Outdoor activities seem to be more important than academic studies • Science has a low priority in the total school curriculum
Quality of Teaching 13 items (Alpha= .80)	• Teacher/student interaction • Preparation for life • Enjoyment from learning • Educational expectations	This school is a place where: • Teachers treat me fairly • Students are taught to think for themselves • Teachers and students work well together • I get enjoyment out for learning • The teachers are willing to help when I need it • I get a chance to do work that really interests me • I get to know the teachers as real people • Students are encouraged to be responsible for what they do • Students learn how to cope with life • Students are expected to work hard at their studies • Teachers try to make the work interesting • I really fell interested to learn

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The present paradigm shift involves standardized testing and passive learning models. Clearly where the peripheral and fringe subjects exist, such as is the case with outdoor education, they are under threat for survival. There are those among us who believe there are better ways to educate our young and change should take place in the educational paradigm - we must be proactive is this change is to happen. Research such as this may enable educators to endorse outdoor education as a catalyst for behavior change with tangible evidence. As such, outdoor education would occupy parity of esteem with other "traditional" subjects within the total school curriculum.

In an age of educational reform and constant cries for 'back to basics', the outdoor education movement will need to have a more substantial and reliable basis of evidence than what presently exists. Consequently, if ESOESP's are to maintain their current momentum, they will need to establish evidence of effectiveness. It is to this end that our research efforts have been directed. The instrumentation outlined in the paper has demonstrated its worth as an acceptable foundation to contribute to the primary evaluation questions within the ESOESP context.

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